



STAFF REPORT

Meeting Date: June 4, 2014

Agenda Item # VIB

Agency: City of Belmont, Parks and Recreation Commission

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Agenda Title: Water Conservation Strategy

Agenda Action: Discussion & Direction

Recommendation

Receive an update on water conservation actions being implemented by the City and provide feedback on the City's recommended strategies.

Background

Due to the lack of sufficient rainfall during the current and previous winter seasons, Governor Brown proclaimed a State of Emergency on January 17, 2014 to focus Californians' attention on the need to conserve water. At that time, the Governor called for a voluntary statewide 20 percent reduction in water use and for all Californians to conserve water in every way possible.

While the entire state is impacted, decisions about water use policies are often made at a regional level or by individual agencies that manage water distribution systems. The supplier of water in Belmont is the Mid-Peninsula Water District which receives its water from the City and County of San Francisco's Regional Water system which is operated by the San Francisco Public Utilities Commission (SFPUC). There is currently enough water in the SFPUC supply for Mid-Peninsula Water District to meet the demand for 2014. However, meeting demand for 2015 may be an issue if drought conditions continue. As of May 1, 2014, the Mid-Peninsula Water District is urging a 10 percent water reduction for 2014. It should be noted that if the voluntary reduction target is not achieved, the District can impose mandatory or higher levels of reduction.

The City of Belmont is the largest account and the largest consumer of water according to the Mid-Peninsula Water District. The Parks and Recreation department manages water use in City buildings, parks, City and School District athletic fields, medians and Right-of Way's. Of these sites, landscaping consisting of turf, shrubs and trees consumes the largest amounts of water.

In 2013, the City consumed over thirty-seven thousand units (37,000 units) of water in City buildings, parks, City and School District athletic fields, medians and Right-of Way's. This equates to over twenty-seven million (27,000,000) gallons of water used. The total cost for water in 2013 was approximately one-hundred eighty-five thousand dollars (\$185,000).

Analysis

The Department has developed a strategy to manage water usage during these drought conditions. Over the last several years, staff has monitored and managed water use as a result of escalating costs and budget constraints. However, staff has identified other areas to conserve this precious resource by using new technologies, more efficient products, creative controller programming, more appropriate plant selections while closely monitoring for leaks or breaks and changes in weather.

The strategy has three major goals:

- To conserve water
- To control water costs (increased costs over the last 4 years with anticipated increases in future years)
- To be more environmentally sustainable

As a result of this strategy, the department has developed a comprehensive program for every landscaped area managed by the department. Every area of each park or median has been assessed and placed into a category that allows for water resources to be strategically allocated by priority. The areas with the highest priority assets receive the most water. (Attachment A)

Priorities have been established by considering how a space is used, its aesthetics, safety and the value of the investment. For example, although water requirements are very high for turf, the alternative and costs associated with having to replace large acres of athletic field turf is not feasible or economical. By prioritizing areas some will be irrigated to maintain healthy levels (green), others will be reduced to non-fatal stress levels (yellow) while others will no longer be irrigated (brown). (Attachment- A)

A high priority area like athletic fields, permit picnic areas, new plantings will be maintained as green and healthy. Areas with shrubs and trees, medians and ornamental turf areas will still be watered to keep the plants alive but watering will be reduced to manageable stress levels. Established trees and shrubs will no longer be irrigated.

Other strategies and Best Management Practices will include:

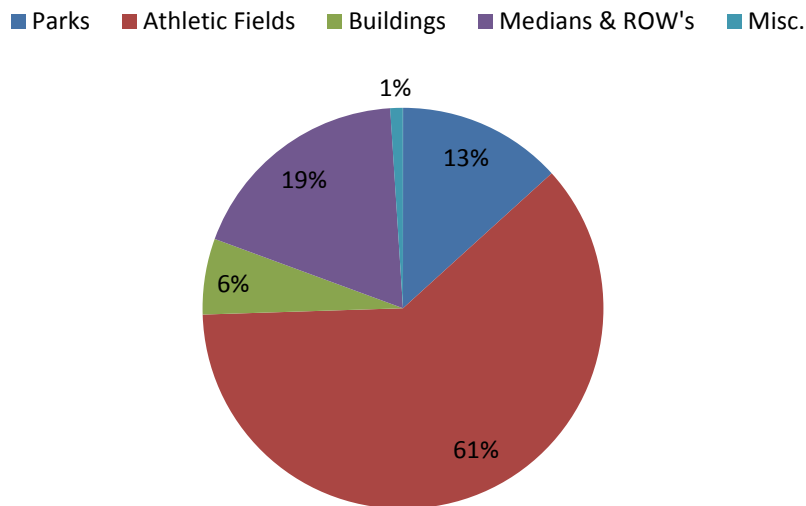
- Actively monitor systems for broken irrigation lines, valves or heads, runoff, over-saturation and making repairs/adjustments quickly.
- Perform water audits of existing systems to improve on watering uniformity and efficiency.
- Install Climate Logic Controllers where appropriate which has the ability to measure temperature, wind, precipitation, daylight hours, evaporation and adjust programs according to weather conditions.
- New landscaping will comply with AB1881 standards with drought tolerant plant species selections which will include audits of new irrigation systems for compliance.
- Consider the installation Water Management Systems (Calsense) which has the ability turn off systems when high flow is detected from breaks or leaks. Programming can be done from a centralized computer system through wireless communication.
- Refrain from daylight watering unless checking a system.
- Use mulch/chips to improve water retention in shrub & tree beds and medians.
- Remove/replace old and underperforming plants which require significant amounts of water.

- Replace spray heads with drip irrigation or bubblers where appropriate.

Staff has collected data of water use from previous years in order to establish a baseline figure and a reduction target goal. It is the department's goal to immediately reduce consumption by ten percent (10%) but may very likely see greater conservation when actions of the strategies have been implemented. Staff will continue to monitor and collect that data.

The graph below shows the water consumption based on areas managed by the City. As shown, athletic field turf consumes and requires the most amount of water with over twenty-two thousand units (22,000 units) used in 2013. The medians on Ralston Avenue and El Camino Real are the second highest consumer in the City. In 2013, medians received over seven-thousand units (7,000 units) of water which was two-thousand units (2,000 units) more than all of City parks combined. Staff has outlined a significant opportunity to conserve water on the landscaping of medians.

Water Use by Area



The department is taking a pro-active approach to water conservation and resource management. The aesthetic impacts to parks and medians will become obvious and the department is prepared to educate residents/visitors about those impacts.

Attachments

A. 2014 Water Conservation Strategy

Fiscal Impact

With previous and future increases to water costs the conservation plan could off-set the costs.

Source:

- ☐ Council
- ☐ Staff
- ☐ Citizen Initiated
- ☒ Other*

Purpose:

- ☐ Statutory/Contractual Requirement
- ☐ Council Vision/Priority
- ☒ Discretionary Action
- ☐ Plan Implementation*

Public Outreach:

- ☒ Posting of Agenda
- ☐ Other*

*Commission requested item

Attachment A - 2014-5 Water Conservation Strategy

Site	Notes
BSC North Field	New controller with weather station installed , monitor/adjust regularly
BSC South Field	New controller with weather station installed , monitor/adjust regularly
BSC Marina Field	New controller with weather station installed , monitor/adjust regularly
BSC Picnic Area lawn	Remove Turf/Mulch
BSC Shrub Beds	Adjust to conserve
O'Donnell Park- Main Turf	Monitor/adjust regularly, modify sprinklers for efficiency
Shrub Beds	Adjust to conserve water
Drinking Fountain/Jug Filler	Shut off
Alexander Park-Main Turf	New controller with weather station installed, monitor/adjust regularly
Small Lawns	Adjust to conserve water
Shrub Beds	Adjust to conserve water
Restroom/Drinking Fountain	No Changes
Nesbit School- Athletic Field	Modify sprinklers for efficiency, water audit
Bike/Ped Bridge Landscaping	Adjust to conserve water
Corporation Yard Shrub Beds	Adjust to conserve water
Lower Ralston Ave. Medians	Adjust to conserve water
Hiller Triangle- Main Lawn	Adjust to conserve water
Shrub Beds	Adjust to conserve water
El Camino Real- Medians	Convert to bubblers and drip irrigation, Install Calsense Controllers
City Hall- Front Lawn	Monitor adjust regularly
Shrub Beds	Adjust to conserve water
Twin Pines Park- Meadow Lawn	New controller with weather station, monitor adjust regularly
Large Shrub Areas	Established trees and shrubs
Shrub Beds- Building Entrances	Adjust to conserve water
Restrooms	Install low volume flush valves/auto shut offs
Drinking Fountains	No changes
Buckeye Picnic Area- Main Lawn	Monitor /adjust regularly
Central School- Athletic Field	Monitor/adjust regularly
College View Park- Turf	Adjust to conserve water
Shrub Beds	Adjust to conserve water

Green = Maintain Water
Yellow = Reduced Water
Brown = Minimal Water

Attachment A - 2014-5 Water Conservation Strategy

Patricia Wharton- Shrub Beds	Adjust to conserve water
Gateway- Shrub Beds	Adjust to conserve water
Alameda Kiosk	Adjust to conserve water
Barrett- Athletic Field	Monitor/adjust regularly, New controller with weather station installed
Interior Lawns	New lawn water requirements, Monitor/adjust regularly
Shrub Beds	Adjust to conserve water
Community Garden	Educate gardeners on conservation efforts
McDougal Park-Athletic Field	Monitor/adjust regularly, Install new controllers with monitoring devices
Belameda Park-Turf Areas	Monitor/adjust regularly
Belameda- Shrub Beds	Adjust to conserve water
Library Shrub Beds	Adjust to conserve water
Cipriani- Athletic Field	Monitor/adjust regularly
Park- Lawn Area	Adjust to conserve water
Trees/Shrubs	Adjust to conserve water
Semeria Park- Lawn	New Lawn requirements/Monitor/Adjust regularly
Semeria- Shrubs/Trees	Adjust to conserve water
Ralston School- Athletic Field	Monitor/Adjust regularly
Fox School- Athletic Field	Monitor/Adjust regularly
Fox School- Non-Athletic Areas	Adjust to conserve water
Hallmark Park- Entrance	Adjust to conserve water
Hallmark Park- Shrubs/Trees	Established trees and shrubs
Hallmark Median	Established trees and shrubs
Upper Ralston Medians	Adjust to conserve water
Medians- Hallmark to Tahoe	Established trees and shrubs

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Yellow = Reduced Water
Brown = Minimal Water